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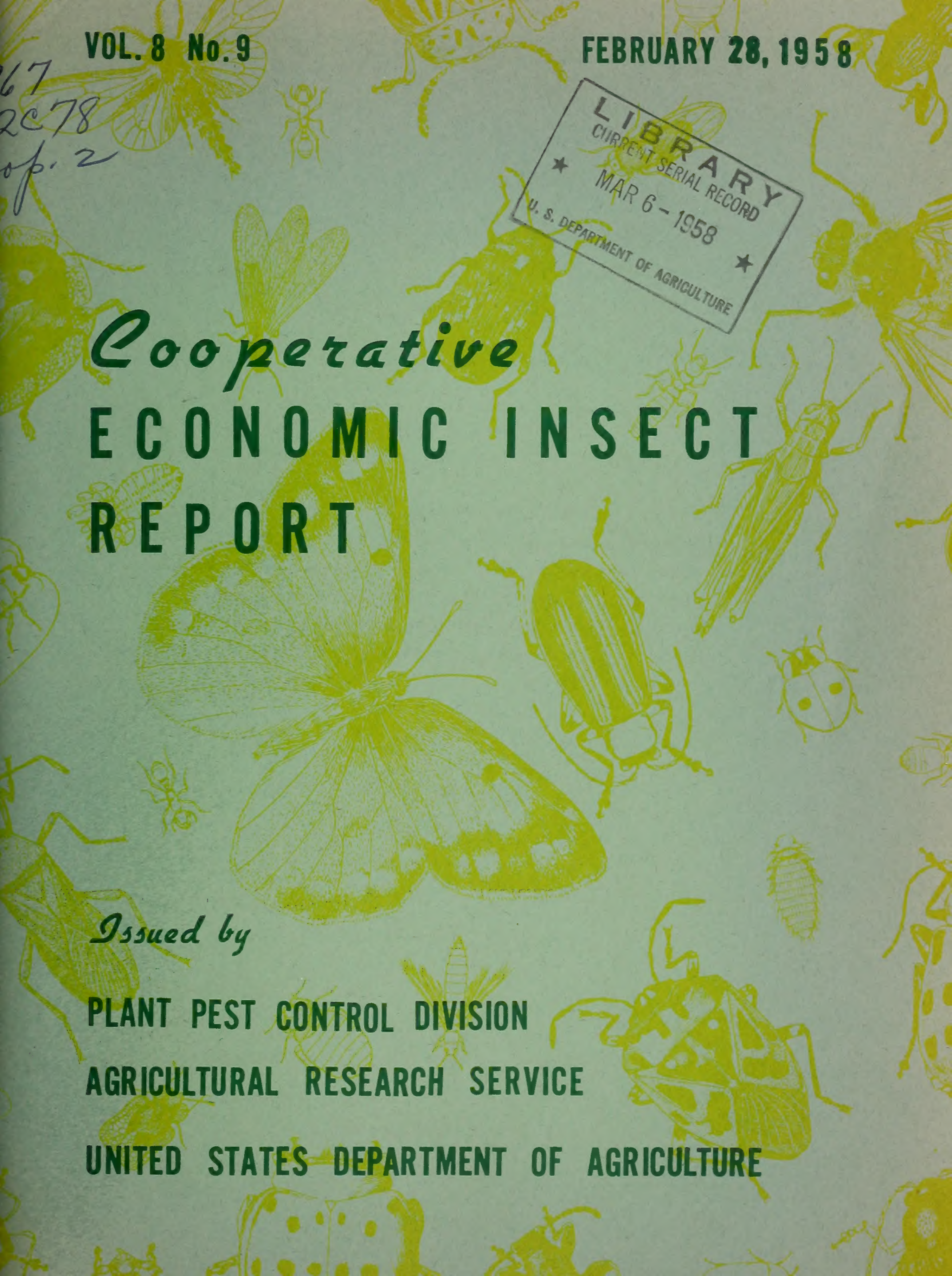

Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

PLANT PEST SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Plant Pest Control Division
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Volume 8 February 28, 1958 Number 9

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

ALFALFA WEEVIL adults in Nevada, spraying underway. (P. 144).

MEXICAN FRUIT FLY scarce in Rio Grande Valley of Texas. (p. 145).

BEET LEAFHOPPER controls being applied on 25,000 acres in Imperial Valley of California. (p. 145).

Surface debris inspection in lower Rio Grande Valley of Texas indicates lightest carryover of PINK BOLLWORM in several years. (p. 145).

New distribution records for IMPORTED FIRE ANT. (p. 147)..

SUMMARY OF INSECT CONDITIONS - 1957 - Rhode Island (p. 148), Connecticut (p. 151), Virginia (p. 152), Alabama (P. 157).

INSECTS not known to occur in the United States. (p. 161).

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Reports in this issue are for the week ending February 21 unless otherwise designated.

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WEATHER OF THE WEEK ENDING FEBRUARY 24

For the third consecutive week the weather was unusually warm in the Far West and extremely cold in the East, despite a pronounced temperature rise east of the Rockies late in the week. Heavy precipitation was mostly limited to the Pacific States and Louisiana and Texas with 4 to 6 inches of rain during a 3-day period causing floods in southern portions of the latter State. The storm which blanketed the Northeast with heavy snow at the end of the previous week was responsible for cold, gusty winds up to 50 m.p.h. on the 17th and 18th. Drifting snow blocked roads throughout the Northeast and many rural areas were isolated. Warmer weather melted much of this snow cover elevations in the middle Atlantic States, but in New England reports in the 24th indicated depths ranging from 2 to 4 feet in northern sections, 10 to 20 inches in the South and under 10 inches along the coast. Extreme depths ranged up to 30 inches in northwestern Connecticut and 62 inches at Limestone, Maine. In the Southeast, the week was extremely cold. At Corinth, Miss., the temperature averaged for the week 2.5° lower than for any previous week on record. Ice jams were causing trouble in some streams in North Carolina. This was Florida's eighth consectuve cold week and frost or freezing extended southward into the Everglades region on 5 days. In some sections of Florida, is is already evident that the winter of 1957-58 will be the coldest on record. At Tampa where an almost unbroken temperature record dates back to 1825, this winter, even if temperatures are normal or slightly above the last few days

(Continued on page 147)

CEREAL AND FORAGE INSECTS

GREENBUG (*Toxoptera graminum*) - NEW MEXICO - None found in 37 grain fields checked, Quay, Curry, Roosevelt, Lea and Eddy Counties. (N. Mex. Coop. Rept.). KANSAS - Very light populations present in some winter wheat fields in southwestern areas. (DePew).

BROWN WHEAT MITE (*Petrobia latens*) - KANSAS - Very light populations present in winter wheat fields, southwestern area. (DePew).

ALFALFA WEEVIL (*Hypera postica*) - NEVADA - Adults active in Churchill, Douglas, Lyon and southern Washoe Counties. Spraying in progress in these areas. (Bechtel, et al).

CLOVER LEAF WEEVIL (*Hypera punctata*) - NEVADA - Larvae active and beginning to damage young alfalfa shoots in Reno area, Washoe County. (Bechtel, Lauderdale).

CORN EARWORM (*Heliothis zea*) - OKLAHOMA - Intensive tests conducted during 1957 at 4 representative corn-growing locations showed an average yield reduction of 1.9 percent in field corn. (Arbuthnot).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - NEW MEXICO - One very light infestation found in an alfalfa field near Hagerman, Chaves County. None found in alfalfa fields in Lea and Eddy Counties. (N. Mex. Coop. Rept.).

SOYBEAN CYST NEMATODE (*Heterodera glycines*) - ARKANSAS - Twenty additional infestations involving 788 acres found in Mississippi County. Soil sampling was confined to approximately 4,690 acres, Craighead and Mississippi Counties, during the period. NORTH CAROLINA - One property totaling 15 acres found in Pender County. (PPC, So. Reg., Jan. Rept.).

FRUIT INSECTS

TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) - WASHINGTON - Winter females active on undersides of lower limbs of apple trees at Pullman, Whitman County, during record high temperature, February 19. (Johansen).

SOFT SCALE (*Coccus hesperidum*) - CALIFORNIA - Medium to heavy infestations on prune trees, Colusa County. Treatment complicated by presence of high bee population on blossoming mustard cover crop. (Cal. Coop. Rept.).

PEAR LEAF BLISTER MITE (*Eriophyes pyri*) - OREGON - Overwintering adults active within pear buds. Eggs number few to as many as 154 within a single bud, February 17. (Gentner).

APPLE MEALYBUG (*Phenacoccus aceris*) - OREGON - Increasing abundance on filberts in restricted area near Gervais, Marion County, causing concern to growers. Female "crawlers" present on trunks and larger limbs and immature males in cottony masses in bark crevices, week of February 16. (Goeden).

APPLE APHID (*Aphis pomi*) - OREGON - Eggs present on approximately 5 percent of apple trees in many orchards inspected February 17 at Milton-Freewater. (Brown).

AN ARMORED SCALE (*Epidiaspis* sp.) - CALIFORNIA - Heavy infestation on plum trees, San Luis Obispo County. (Cal. Coop. Rept.).

SHOT-HOLE BORER (*Scolytus rugulosus*) - NEW MEXICO - Damaging peach trees in orchard at Ft. Sumner, De Baca County. (N. Mex. Coop. Rept.).

CITRUS BLACKFLY (Aleurocanthus woglumi) - MEXICO - Light infestations on 153 trees on 23 properties in States of Tamaulipas and Nuevo Leon. (PPC, Mex. Reg., Jan. Rept.).

MEXICAN FRUIT FLY (Anastrepha ludens) - TEXAS - No collections were made in 5 Rio Grande Valley counties during January. Total of 784 traps were operated. Believed that infestation is slow developing because of generally light infestation in Mexico together with unusual cold weather that prevailed in recent months. Only one adult trapped this season compared with 69 in 1956-57. (PPC, Sou. Reg.). MEXICO - No specimens collected in northwestern area during January. (PPC, Mex. Reg.).

SIX-SPOTTED MITE (Eotetranychus sexmaculatus) - FLORIDA - Infestations increased sharply on citrus, week ending February 14. Will be severe when new growth becomes general. (Pratt, Thompson, Johnson).

TRUCK CROP INSECTS

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Based on index of populations, control treatment of approximately 25,000 acres in Imperial Valley was begun February 19. (Cal. Coop. Rept.).

ARTICHOKE PLUME MOTH (Platyptilia carduidactyla) - CALIFORNIA - Damaging artichokes in northern Santa Barbara County. (Cal. Coop. Rept.).

COTTON INSECTS

PINK BOLLWORM (Pectinophora gossypiella) - MEXICO - Inspections of blooms and gin trash in Culiacan, Sinaloa zone were negative. Surface debris inspections in States of Tamaulipas and Nuevo Leon resulted in 21 live larvae found in total of 4,212 bolls from 287 fields. (PPC, Mex. Reg., Jan. Rept.) TEXAS - Surface debris inspections in Willacy, Cameron, and southern parts of Hidalgo and Starr Counties indicate that the carryover is the lightest in a number of years. (PPC, So. Reg., Jan. Rept.). OKLAHOMA - Inspections of 2 lint cleaners and 3 gin stands in 5 southern counties revealed 4 larvae, January 27 - February 5. (Fed.-State PBW Comm.).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - TEXAS - Control measures applied to all known infested pines. (Young).

TIP MOTHS - TEXAS - Adults emerging in Jasper County. (Young).

AN ARBORVITAE APHID (Cinara tujafilina) - NEW MEXICO - Attacking arborvitae in Dona Ana, Grant, Curry and Roosevelt Counties. (N. Mex. Coop. Rept.).

CHERMIDS - TEXAS - Causing galls on yaupon holly, Harris County. (Garner).

ROSE APHID (Macrosiphum rosae) - NEW MEXICO - Infesting roses in Dona Ana and Grant Counties. (N. Mex. Coop. Rept.).

OLEANDER SCALE (Aspidiotus hederae) - CALIFORNIA - Medium infestation on mulberry trees, San Luis Obispo County. (Cal. Coop. Rept.).

SOFT SCALE (Coccus hesperidum) - CALIFORNIA - Heavy on aralia in El Centro, Imperial County. (Cal. Coop. Rept.).

INSECTS AFFECTING MAN AND ANIMALS

CATTLE GRUBS (*Hypoderma* spp.) - UTAH - Numerous in many feed lot cattle, Iron County. Common in Uintah and Duchesne Counties. Peak numbers not yet reached in most counties. (Knowlton). NEW MEXICO - *Hypoderma* sp. adults beginning to chase cattle at Deming, Luna County. (N. Mex. Coop. Rept.). SOUTH DAKOTA - Grubs, mostly *H. lineatum*, averaged 20-30 per head in calves in central areas. (Hantsbarger).

MOSQUITOES - NEVADA - Survey of major breeding areas east of Pitman and Whitney, Clark County, revealed numerous egg rafts and larvae. (Zoller). CALIFORNIA - Heavy populations *Anopheles freeborni* hibernating females continue to annoy residents of cities along the Sacramento River. Warm weather and heavy rains causing unusually early break in hibernation. (Fowler).

CATTLE LICE - UTAH - Numerous in Iron County herds and abundant in Duchesne County. Some herds severely infested. Infestations moderate to severe, Uintah County. Some heavy infestations reported from Cache and Boxelder Counties. Serious problem in many range herds, San Juan and Juab Counties. (Knowlton).

A COCKROACH (*Blattella vaga*) - CALIFORNIA - Infesting a house in Oakdale, Stanislaus County. Not a common species in the State. (Cal. Coop. Rept.).

STORED-PRODUCT INSECTS

KHAPRA BEETLE (*Trogoderma granarium*) - MEXICO - Eight new infestations, totaling 883,378 cubic feet, found during January in Mexicali Valley of Baja California. (PPC, Mex. Reg.).

INDIAN-MEAL MOTH (*Plodia interpunctella*) - SOUTH DAKOTA - Heavy infestations on stored corn in Moody County. (Hantsbarger).

STORED GRAIN PESTS - OREGON - Inspections of 10 grain storage elevators during week of February 16 disclosed low to moderate infestations of grain pests. There were heavy infestations of LESSER GRAIN BORER (*Rhyzopertha dominica*) in barley and MEALWORMS and SAW-TOOTHED BEETLES in cracked corn at Grants Pass and MEDITERRANEAN FLOUR MOTH (*Anagasta kuhniella*) in shelled corn at Eugene. (Krantz, Capizzi).

BENEFICIAL INSECTS

LADY BEETLES - WASHINGTON - Adults of *Stethorus picipes* and *Hippodamia convergens* active in apple orchard at Pullman, Whitman County, February 19. (Johansen).

LIGHT TRAPS

	Hel. zea	Pseud. unip.	Plath. scab.	Laph. frug.	Agrot. yps.	Perid. marg.	Felt. subt.	Prod. ornith.
FLORIDA								
Quincy 2/11		4						
LOUISIANA								
Baton Rouge 1/8-2/20		22			17	9	13	6
Franklin 1/2-2/8		9			12	2	1	1
TEXAS								
Brownsville 2/9-14	2	4		6	5	2	20	
Weslaco 2/1-15		93		14	11	22	24	19

MISCELLANEOUS INSECTS

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - Counties reported infested for the first time during January are Blount, Fayette and Shelby Counties, ALABAMA; Leon County, FLORIDA; Dooly, Marion, Miller and Laurens Counties GEORGIA; and Berkeley and Marion Counties, SOUTH CAROLINA. The Laurens County, Georgia, infestations will cover approximately 350 acres. Other Georgia infestations are light. Treatments have been applied to heavily infested section of highway north of Montgomery, Alabama. Twelve nurseries treated in Hillsborough County and 130 acres in Marion County, Flordia. In Decatur County, Georgia, 12,208 acres were treated by airplane and in 17 Louisiana parishes, 1,189 acres were treated. (PPC, So. Reg., Jan. Rept.).

A SUBTERRANEAN TERMITE (Reticulitermes sp.) - NEVADA - Reproductive forms swarming in Reno-Sparks area, Washoe County. (Lauderdale, Ting).

A POWDER POST BEETLE (Lyctus brunneus) - CALIFORNIA - Heavily infesting bamboo blinds in house in Oakland, Alameda County. (Cal. Coop. Rept.).

CLOVER MITE (Bryobia praetiosa complex) - NEW MEXICO - Invading homes in Lincoln, Curry and Lea Counties. (N. Mex. Coop. Rept.). NEVADA - Causing increased annoyance to homeowners in Reno-Sparks area, Washoe County. (Bechtel, Lauderdale).

BOXELDER BUG (Leptocoris trivittatus) - MARYLAND - Entering house and causing annoyance in city of Baltimore. (U. Md., Ent. Dept.).

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(Continued weather report)

of February, appears to be about 2° colder than any previous winter. West of the Continental Divide temperatures remained abnormally high in all areas for the third consecutive week. On the 22d the mercury rose to 67° at Boise, Idaho, the highest temperature ever recorded there in February during an 83-year record. In Oregon, the season is 2 to 4 weeks ahead of normal, with numerous flowers and trees blooming in the western part of the State. (Summary supplied by U. S. Weather Bureau).

SUMMARY OF INSECT CONDITIONS - 1957

RHODE ISLAND

Reported by W. N. Stoner

Weather Conditions: Climatic conditions were not at all usual this year. Early high temperatures and progressive drought caused an advance of the usual dates of appearance of some species. As the drought continued through the summer there was a general depressing effect on many species, due, it is believed, to a reduction of numbers and quality of wild and cultivated hosts. At the same time, however, dry conditions were favorable to certain species that may not normally be considered of great importance. Estimates of damage caused by insects this year were greatly complicated, and in some cases impossible to assess, due to the profound effects of the prolonged drought.

Cereal and Forage Crop Insects: STALK BORER (Papaipema nebris) was active earlier than usual by about three weeks. It attacked an extremely wide host range and caused some early damage in field, forage, and sweet corns. EUROPEAN CORN BORER (Pyrausta nubilalis) was not as severe as expected from the 1956 fall incidence survey, in field and forage corn that was not irrigated. In plantings of forage corn with adequate moisture of sweet corn under irrigation attack was very pronounced in localized areas, especially in late varieties. APHIDS were adversely affected by high temperatures and drought and not until late in the season did populations begin to increase but too late to cause direct loss. The CORN EARWORM (Heliothis zea) was only a problem in sweet corn produced without control measures. The CLOVER ROOT CURCULIO (Sitona hispidula) and A CLOVER WEEVIL (Sitona flavescens) were found in red clover, alfalfa, ladino clover, and white clover. Relatively large numbers of the grubs were present and causing some root damage. Foliage feeding of adults was severe in localized areas.

Fruit Insects: Because of the early high temperatures fruit growers paid particular attention to spray schedules and in general obtained good control of the usual fruit insects. In unprotected home plantings and in abandoned orchards depredations of APPLE MAGGOT (Rhagoletis pomonella), PLUM CURCULIO (Conotrachelus nenuphar), CODLING MOTH (Carpocapsa pomonella) and early in the season ROSY APPLE APHID (Anuraphis roseus)were very severe and neglected trees constituted a heavy source of infestation throughout the season. MITES were well under control in most areas with indications of injury on apples late in the season where spraying was discontinued too soon. Grapes in small plantings suffered considerable foliar attack by the GRAPE PHYLLOXERA (Phylloxera vitifoliae) and foliar, stem and tendril damage from A GRAPE TOMATO GALL (Lasioptera vitis). Late in the season as fruit ripened GRAPE BERRY MOTH (Paralobesia viteana) caused severe injury in very localized areas. APPLE MAGGOT (Rhagoletis pomonella) emerged in June about three weeks early. ORIENTAL FRUIT MOTH (Grapholitha molesta) caused considerable shoot damage to peach trees in certain areas as many growers discontinued spraying after late frosts practically eliminated peach fruits. One extremely severe infestation of STRAWBERRY WHITEFLY (Trialeurodes packardi) was noted in mid-July and was not entirely eliminated by repeated, careful spraying by first frost.

Truck Crop Insects: COLORADO POTATO BEETLE (Leptinotarsa decemlineata), IMPORTED CABBAGEWORM (Pieris rapae), CABBAGE LOOPER (Trichoplusia ni) and TOMATO HORNWORM (Protoparce quinquemaculata)ordinarily a problem in wide distribution, were fewer in numbers and damage was quite localized. STALK BORER (Papaipema nebris) was abundant in potatoes and peppers. There was considerable loss to peppers from borers invading newly set plants necessitating extensive resetting in many cases. MEXICAN BEAN BEETLE (*Epilachna varivestis*) developed large localized populations in market garden plantings of various types of beans abandoned due to drought. SQUASH BUG (*Anasa tristis*) and SQUASH VINE BORER (*Melittia cucurbitae*) were relatively abundant, causing usual amount of damage. STRIPED CUCUMBER BEETLE (*Acalymma vittata*) adults were present in relatively large numbers early in the season causing heavy damage to emerging seedlings. Serious damage was also caused by eating out ovaries of early bloom of cucurbits eliminating some of the early production. SPOTTED CUCUMBER BEETLE (*Diabrotica undecimpunctata howardi*) appeared very late in the season and in exceedingly small numbers.

Both SPOTTED ASPARAGUS BEETLE (*Crioceris duodecimpunctata*) and ASPARAGUS BEETLE (*Crioceris asparagi*) adults were present very early in the season. Considerable damage was caused by larvae hatching from eggs laid by the early emerging adults. What appeared to be second generation adults and the larvae from their eggs both caused severe foliar damage to asparagus from July to September. Damage to early potatoes and tomatoes was severe from foliage feeding by POTATO FLEA BEETLE (*Epitrix cucumeris*) and what appeared to be the 1957 season's brood caused foliar injury to potatoes relatively late in the season. One note of special interest was the general distribution and high populations of the THREE-LINED POTATO BEETLE (*Lema trilineata*) throughout the summer. Ordinarily this insect is present in negligible numbers, but in 1957 it probably caused more foliar injury to potato than the COLORADO POTATO BEETLE. Three species of BLISTER BEETLES (*Epicauta pestifera*, *E. pennsylvanica* and *Epicauta* sp.) were taken on tomato and potato in larger numbers than usual. *Epicauta pestifera* caused economic loss on early tomato fruits. CABBAGE MAGGOT (*Hylemya brassicae*) occurred in widely scattered locations very early in the season causing severe losses in early turnips and radishes. SPINACH LEAF MINER (*Pegomya hyoscyami*) occurred early and generally. Foliar damage from larvae was encountered all through the 1957 season in garden beets and swiss chard with as many as 6 larvae per burrow and as much as one half of the leaf area destroyed.

Forest Ornamental and Shade Tree Insects: The number of species causing damage was less this year, but there was some rather severe damage from apparently above normal populations of particular insects. Early in the season BIRCH LEAF MINER (*Fenusa pusilla*) caused extreme foliar damage to birch statewide. Trees appeared scorched and a second strong attack followed later in replacement foliage. GYPSY MOTH (*Porthetria dispar*) was light to moderate in some locations but well controlled by timely spray applications. SMALLER EUROPEAN ELM BARK BEETLE (*Scolytus multistriatus*) was about as active as in 1956 with only a very slight increase in incidence of Dutch elm disease. Experiments conducted on emergence indicate a starting date in the last week of May. PINE NEEDLE MINER (*Exoteleia pinifoliella*) severely infested pitch pine in southern half of State and in local areas in northern half by mid-season. Injury was extensive with some needle drop and a general browning of all foliage. Many species of oaks were severely injured by loss of foliage due to SOLITARY OAK LEAF MINER (*Cameraria hamadryadella*) and GREGARIOUS OAK LEAF MINER (*Cameraria cincinnatiella*). Burrows of the former were most numerous. Larvae of ORANGE-STRIPED OAKWORM (*Anisota senatoria*) began feeding on leaves of bottom branches of various species of oak around the first of August, stripping 30 percent of foliage from trees by the end of September in many localized areas.

COOLEY SPRUCE GALL APHID (*Chermes cooleyi*) was reported early in May and continued as one of the most serious pests on ornamental spruce throughout the State. FALL WEBWORM (*Hyphantria cunea*) distribution was statewide around the first of August and caused considerable foliar damage on a wide host range including apple, wild cherry, elm, and maple and on bayberry on Block Island. OYSTERSHELL SCALE (*Lepidosaphes ulmi*) populations were heavy statewide on willows, pachysandra, lilac, and poplar. EASTERN TENT CATERPILLAR (*Malacosoma americanum*) occurred in large numbers from April to July in a statewide distribution, principally on wild cherry. PINE NEEDLE SCALE (*Phenacaspis pinifoliae*) was statewide in heavy infestations on various varieties of ornamental pines. WHITE-PINE WEEVIL (*Pissodes strobi*) damage to pines and spruces for 1957 was considerably less than usual. Root attacks of BLACK VINE WEEVIL (*Brachyrhinus sulcatus*) on taxus were fairly widespread, but much lighter than usual. ROSE CHAFER (*Macrodactylus subspinosus*) appeared early in June in unusually large number, attacking an extremely wide host range including many ornamentals. Inquiries were more numerous in 1957 than those on JAPANESE BEETLE (*Popillia japonica*) which was not the problem that it generally is. Foliage of the hackberry tree was very heavily galled statewide by HACKBERRY NIPPLE GALL (*Pachypsylla celtidis-mamma*). Severe infestations of the EUONYMUS SCALE (*Unaspis euonymi*) occurred on euonymous and pachysandra in several widely scattered locations. Infestations of MAPLE BLADDER-GALL MITE (*Vasates quadripedes*) were widespread and often on many different species of maple. STALK BORER (*Papaipema nebris*) severely attacked ornamentals such as phlox, dahlia, and forsythia. In most cases this was in conjunction with attacks on corn, peppers, potatoes, and, in some cases, weeds in garden plots.

Turf Insects: Injury from turf insects was either less severe than usual or somewhat masked because of the drought. ASIATIC GARDEN BEETLE (*Autoserica castanea*) adults were not nearly as numerous as usual in 1957 nor were JAPANESE BEETLE adults. CLOVER MITE (*Bryobia praetiosa*) caused considerable annoyance to householders in widely scattered locations early in the season. MEADOW SPITTLEBUG (*Philaenus leucophthalmus*) occurred in relatively large numbers early in the season on various turf plants, but many nymphs failed to reach maturity because of the drought. Populations of certain leafhoppers also suffered, but one LEAFHOPPER, *Draeculacephala antica* was found in several widespread locations all season where the turf remained green. One report was made of a medium adult population of SIX-SPOTTED LEAFHOPPER (*Macrosteles fascifrons*). Field symptoms of aster-yellows virus were quite distinct in aster, carrot, lettuce and celery in this area. One report of a localized outbreak of ARMYWORM (*Pseudaletia unipuncta*) late in the season was received from Newport and a single heavy infestation of SOD WEBWORMS (*Crambus* spp.) was observed in Kingston in late July.

Insects Affecting Man and Animals: There was a general lack of complaints or reports in 1957. NORTHERN HOUSE MOSQUITO (*Culex pipiens*) and *Aedes excrucians* flared up in short-lived local infestations in May and the last of August. BROWN SALT-MARSH MOSQUITO (*Aedes cantator*) and *Aedes canadensis* were active around the first of June in annoying numbers in a very few widely scattered locations. Occurrence of EQUINE ENCEPHALOMYELITIS was very rare this season. AMERICAN DOG TICK (*Dermacentor variabilis*) was reported the end of March and continued in high populations over a wide area until the end of June. Specimens from the Smithfield area may mean a northward extension of the range of this pest. Populations of the HOUSE FLY (*Musca domestica*) were lower than usual with small peaks in June and September. One confirmed report of a single sheep infested with *Chorioptes caprae* occurred in July. One extremely heavy and annoying infestation of HUMAN FLEA (*Pulex irritans*) was reported in a home at Wakefield in July.

Household Pests: WHARF BORER (*Nacerdes melanura*) was found infesting an old building in Providence in June. Species causing annoyance by invasion of homes were FIELD CRICKET, TWO-SPOTTED LADY BEETLE, CLOVER MITE, ELM LEAF BEETLE, and EUROPEAN EARWIG, the latter species being reported from many areas. Damage to timbers in homes by EASTERN SUBTERRANEAN TERMITE (*Reticulitermes flavipes*) was reported from many locations. BLACK CARPENTER ANT (*Camponotus herculeanus pennsylvanicus*) was also frequently reported damaging timbers in homes. OLD HOUSE BORER (*Hylotrupes bajulus*) was reported not only in old homes, but in new construction and even lumber. BLACK CARPET BEETLE (*Attagenus piceus*) adults and larvae were found in moderate to heavy infestations in homes in many localities.

Miscellaneous: An outbreak of CHAIN-SPOTTED GEOMETER (*Cingilia catenaria*) occurred over a 30 acre area near Matunuck in incredible numbers, feeding on practically all plants, even conifers.

SUMMARY OF INSECT CONDITIONS - 1957

CONNECTICUT

Compiled by William D. Tunis

Forage Crop Insects: ALFALFA WEEVIL (*Hypera postica*) was found for first time in 1957. Highest populations appear to be in Fairfield and Litchfield Counties; however, no damage was observed in 1957. POTATO LEAFHOPPER (*Empoasca fabae*) was very abundant on alfalfa.

Fruit Insects: PLUM CURCULIO (*Conotrachelus nenuphar*) was serious on apples throughout the State. APPLE MAGGOT (*Rhagoletis pomonella*) high populations continued for the third year; unusually abundant late in season, flies easily detected during harvest. CODLING MOTH (*Carpocapsa pomonella*) was generally light throughout the State. RED-BANDED LEAF ROLLER (*Argyrotaenia velutinana*) was also generally light except for moderate infestations in some orchards. APHIDS were generally light on fruit. EUROPEAN RED MITE (*Panonychus ulmi*) and TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) were severe throughout State. Unusually dry summer favored buildup. Phosphate-type insecticides generally gave poor control. SAN JOSE SCALE (*Aspidiotus perniciosus*) continues to buildup, rapidly becoming a serious problem in some orchards. PEAR PSYLLA (*Psylla pyricola*) populations moderate throughout the State. CUTWORMS on strawberries were severe in scattered locations. CYCLAMEN MITE (*Steneotarsonemus pallidus*) on strawberries was severe in a few locations. GRAPE BERRY MOTH (*Paralobesia viteana*) was generally abundant.

Vegetable Insects: MEXICAN BEAN BEETLE (*Epilachna varivestis*) showed unusually light populations for second consecutive year. LEAFHOPPERS were very abundant on beans and lettuce. SPINACH LEAF MINER (*Pegomya hyoscyami*) was abundant on beet, chard, and spinach. CABBAGE MAGGOT (*Hylemya brassicae*) was moderate throughout the State. CABBAGE APHID (*Brevicoryne brassicae*) was generally moderate. CABBAGE LOOPER (*Trichoplusia ni*) and IMPORTED CABBAGEWORM (*Pieris rapae*) were generally abundant on cole crops. EUROPEAN CORN BORER (*Pyrausta nubilalis*) and CORN EARWORM (*Heliothis zea*) were moderate to severe throughout the State. STRIPED CUCUMBER BEETLE (*Acalymma vittata*) population was moderate. COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) was generally light. FLEA BEETLES on potato were light to moderate. APHID populations on potato were moderate to severe.

Livestock Insects: HOUSE FLY (*Musca domestica*) populations were light to moderate with heavy populations reported in local areas where sanitation was poor. HORN FLY (*Siphona irritans*) and STABLE FLY (*Stomoxys calcitrans*) populations were generally light. LICE on cattle were generally light. MITES and LICE on poultry were generally light except for severe infestations in scattered localities.

SUMMARY OF INSECT CONDITIONS - 1957

VIRGINIA

Reported by A. P. Morris

Cereal and Forage Insects: CORN EARWORMS (*Heliothis zea*) were responsible for heavy damage, or large expenditures to prevent damage, to Virginia crops during 1957. They were especially expensive to soybean growers in the southeastern and eastern part of the State and also damaged peanuts, milo, sorghum, and corn. Larval damage to soybeans began to be serious enough to warrant control during the week of August 23 and continued until the crops were mature. As soybeans were later than usual, they were especially susceptible to damage by earworms. Most fields in the eastern and southeastern areas were treated by airplane. In some fields not treated early enough the bean crop was lost. Heaviest light trap catches of adults at Norfolk were made August 2, 5, and 13. ALFALFA WEEVIL (*Hypera postica*) was again very destructive to alfalfa or costly to control in practically the entire State. The pest continued to spread and is now found in all but 10 counties in the southwestern corner of the State. Controls had to be applied in most alfalfa fields in approximately 70 counties. The peak of larval activity was reached about April 20 in most parts of the State. In untreated fields plants appeared white as the result of leaf tissue being almost completely consumed. The net value of alfalfa weevil control is estimated to be $2,356,992 for 1957. ARMYWORM (*Pseudaletia unipuncta*) outbreaks occurred in all parts of the State but were not general in the areas involved.

FALL ARMYWORM (*Laphygma frugiperda*) outbreaks occurred to some extent in all parts of the State but were far from general in the areas involved. Crops damaged were pastures, peanuts, small grains for cover crops, milo, soybeans, ryegrass, corn, vetch, grasses, and crimson clover. VELVETBEAN CATERPILLARS (*Anticarsia gemmatalis*) were a serious economic problem on soybeans in southeastern and eastern Virginia for the first time during 1957. This species damaged peanuts also, but to a much smaller extent than soybeans. During the week of September 20 large numbers of adults were caught in the light trap at Norfolk. All fields of soybeans surveyed during the week of September 28 were infested and most infestations were heavy. Infestations continued heavy in most fields through the week of October 18. PEA APHID (*Macrosiphum pisi*) populations needed controls in a few isolated fields scattered over the State during April and May. CUTWORMS damaged corn and peanuts in widely separated parts of the State during the year. MEADOW SPITTLEBUG (*Philaenus leucophthalmus*) nymphs were heavy in many southwest alfalfa and clover fields and also in some scattered fields in other parts of the State. Nymphs appeared on alfalfa after the first cutting in some instances and did noticeable damage. EUROPEAN CORN BORER (*Pyrausta nubilalis*) infestations were lighter than for a number of years in two areas surveyed. The average number of borers per 100 plants was 117 for the southwestern and the northern areas and 63 percent of the stalks in the fields were infested. Very heavy damage to corn was reported in the eastern and southeastern areas. European corn borer also heavily damaged some fields of wheat in Charles City and King George Counties. CLOVER LEAF WEEVIL (*Hypera punctata*) required very few applications of insecticides during 1957. CORN ROOT WEBWORM (*Crambus caliginosellus*) caused 50 percent damage to corn in some areas of Pittsylvania County. LESSER CORNSTALK BORER (*Elasmopalpus lignosellus*) damaged corn to a small extent in Nansemond County and lightly damaged peanut fields in Sussex and James City Counties. GREEN CLOVERWORMS (*Plathypena scabra*) were a problem in a few fields of soybeans in southeastern and eastern Virginia. POTATO LEAFHOPPERS (*Empoasca fabae*) were heavy in some areas on peanuts in southeastern Virginia, and many growers made insecticidal applications to control them. Populations were present on alfalfa in all parts of the State by May 31 and built up to heavy populations in some fields. CLOVER ROOT BORERS (*Hylastinus obscurus*) were present in large numbers in some clover and alfalfa fields. SPOTTED ALFALFA APHIDS (*Therioaphis maculata*) were not a problem in Virginia during 1957, although 2 or 3 heavy populations were seen. No specimens of this species were found in Virginia fields before the middle of June. SOUTHERN CORN ROOTWORM (*Diabrotica undecimpunctata howardi*) was not as much of a problem in peanut fields in southeastern Virginia as usual. BEAN LEAF BEETLES (*Cerotoma trifurcata*) were a problem on soybeans in Norfolk County in August. THRIPS damaged corn in some fields in Culpeper, Fauquier, and Botetourt Counties. They were heavy in some fields of peanuts in southeastern Virginia. Both corn and peanut plants outgrew the damage, however. SPIDER MITES became quite general on soybeans on the Eastern Shore, and by August 23 many fields had sections nearly defoliated. RICE WEEVIL (*Sitophilus oryza*) infestations were heavy in corn fields in southeastern Virginia during September. THREE-CORNERED ALFALFA HOPPER (*Spissistilus festinus*) damaged alfalfa in Amherst County during July. A LOOPER (*Pseudoplusia includens*) was numerous on soybeans in some Westmoreland County fields on September 28.

Fruit Insects: RED-BANDED LEAF ROLLERS (*Argyrotaenia velutinana*) were more of a problem in Virginia apple orchards than usual, partly because of resistance to the primary insecticide used to control them. Resistant populations may now be present in nearly all parts of the State. Three to five applications were applied in some northern Virginia orchards and populations were still present. CODLING MOTH (*Carpocapsa pomonella*) infestations were below normal in apple orchards during 1957 but caused more than the usual trouble in a few scattered orchards. UNSPOTTED TENTIFORM LEAF MINERS (*Callisto geminatella*) were of minor importance in apple orchards during 1957. APPLE APHIDS (*Aphis pomi*) were slightly more of a problem in apple orchards in northern Virginia during 1957 than in previous years. Infestations were present throughout the growing season, and controls were applied. ROSY APPLE APHIDS (*Anuraphis roseus*) did little commercial damage. WOOLLY APPLE APHIDS (*Eriosoma lanigerum*) have hardly been in evidence in orchards for the last three years, and populations were still lower again this year. EUROPEAN RED MITES (*Panonychus ulmi*) were about normal in apple orchards in northern Virginia but were heavy in a few apple orchards in the Piedmont area and caused some trouble. This species, however, was troublesome in peach orchards in the Piedmont area and in eastern areas. Infestations were more persistent and heavier than usual on peach trees. STRAWBERRY SPIDER MITES (*Tetranychus atlanticus*) were severe on strawberry plants in southeastern and eastern Virginia during the spring and were very hard to control. ORIENTAL FRUIT MOTH (*Grapholitha molesta*) was responsible for more damage to peaches than for a number of years. LESSER PEACH TREE BORERS (*Synanthedon pictipes*) were heavier than previously in peach orchards and are building up more every year in all parts of the State. PLUM CURCULIOS (*Conotrachelus nenuphar*) were not a problem in apple orchards but caused light commercial injury in peach orchards. APPLE FLEA WEEVIL (*Rhynchaenus pallicornis*) damaged foliage heavily in two Wise County apple orchards, was medium in one, and light in others. Infestations are slowly spreading and increasing in the county. PERIODICAL CICADA (*Magicicada septendecim*) heavily damaged apple trees in some orchards in Wise County but were not a problem in orchards elsewhere in the State. JAPANESE BEETLES (*Popillia japonica*) were heavier than usual in northern Virginia but did not damage apple orchards. They heavily damaged ripening peaches in some peach orchards.

Truck Crop Insects: MEXICAN BEAN BEETLE (*Epilachna varivestis*) was serious on the bean crops where insecticidal applications had not been made by June 21. By July 19 populations were about as heavy as they had been for some year, were causing severe injury where controls had not been adequate and new adults were ovipositing heavily on snap and lima beans. CORN EARWORMS (*Heliothis* sp.) damaged tomatoes, snap and lima beans, sweet corn, kale, collards, and other cruciferous crops in southeastern and eastern truck cropping areas during 1957. Damage was usually heavy only on these crops where insecticidal applications were not used or inadequately used.

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) infestations on potatoes were heavier than in 1956, and the insect seemed to be present in large numbers about 2 weeks earlier than usual this year. SPIDER MITES (largely (Tetranychus telarius) became severe on snap and lima beans, tomatoes, eggplants, cucumbers, cantaloupes, and black-eyed peas in southeastern and eastern truck cropping areas, heaviest on the Eastern Shore. CABBAGE LOOPER (Trichoplusia ni), IMPORTED CABBAGEWORM (Pieris rapae), and DIAMONDBACK MOTH (Plutella maculipennis) heavily damaged cabbage, broccoli, and cauliflower crops in the truck cropping areas of southeastern and eastern Virginia from early July through October. Much of the damage by these insects was the result of improper timing of insecticidal applications or no insecticidal applications. HORNWORM (usually Protoparce quinquemaculata) damage to tomatoes on the Eastern Shore and in Hanover County was heavy. EUROPEAN CORN BORERS (Pyrausta nubilalis) heavily damaged sweet corn and did considerable damage to potato plants on the Eastern Shore. POTATO FLEA BEETLE (Epitrix cucumeris) damaged tomato, potato and young cole crops in the southeastern truck cropping areas and on the Eastern Shore during 1957. Most of the damage occurred in the fall. BEAN LEAF BEETLES (Cerotoma trifurcata) did considerable damage to young snap beans in the Norfolk area during May. JAPANESE BEETLES (Popillia japonica) injured sweet corn, snap beans, and other truck and garden crops to a small extent during 1957. Populations were higher in many areas than they have been for the last three or four years. POTATO TUBERWORM (Gnorimoschema operculella) damage was heavy to potato plants in some Eastern Shore fields during the first half of July. SERPENTINE LEAF MINERS (Liriomyza sp.) damaged truck crops extensively on the Eastern Shore during the last half of August. POTATO LEAFHOPPER (Empoasca fabae) outbreaks on potatoes on the Eastern Shore and on snap and lima beans in southeastern Virginia were the worst encountered in recent years during late June and early August. PICKLEWORM (Diaphania nitidalis) did considerable injury to some plantings of cantaloupes in southeastern Virginia in July but were only light on late cucumbers, pumpkins, and squash late in September.

Tobacco Insects: HORNWORMS (Protoparce sexta and P. quinquemaculata) damaged flue-cured, dark-fired, and burley tobacco in 1957 but to a lesser degree than usual. Populations of the first generation were heavy enough to justify controls by the middle of June. Second-generation larvae required controls about the first of August. TOBACCO FLEA BEETLE (Epitrix hirtipennis) caused little trouble in tobacco in 1957, not as much trouble as in 1956. WIREWORMS were not generally a problem during 1957, but several heavy infestations caused considerable damage in a few spots in tobacco-growing areas. TOBACCO BUDWORMS (Heliothis sp.) were unusually light on tobacco plants in most fields and very little insecticide was used. GREEN PEACH APHIDS (Myzus persicae) were generally light and controls were needed in very few fields. Natural enemies and the weather combined kept infestations low. VEGETABLE WEEVIL (Listroderes costirostris obliquus) adults fed so heavily on the leaves and stalks of newly set tobacco plants in a one acre field in Halifax County that the field had to be replanted 3 times. GREEN JUNE BEETLE (Cotinis nitida) larvae were heavy in a 1400 square foot tobacco plant bed, and MIDGE LARVAE were medium to heavy in 700 square yards of plant bed in Pittsylvania County.

Forest Ornamental and Shade Tree Insects: IPS BARK BEETLES were the worst killers of pine forest and shade trees in Virginia during 1957. Principle species apparently were Ips calligraphus and I. avulsus. Much of the damage was to scattered small groups of trees on large plantations. The peak of the apparent damage occurred during September. SOUTHERN PINE BEETLE (Dendroctonus frontalis) damaged and killed pine trees in all areas. Single shade trees up to scattered groups of several trees on large plantations were killed. BLACK TURPENTINE BEETLE (Dendroctonus terebrans) also killed many pine forest and shade trees; damage was widespread. Plantations and shade trees in the central, south central, southeastern and eastern areas were hard hit, as were a few plantations in 2 or 3 of the northern counties.

NANTUCKET PINE MOTH (Rhyacionia frustrana) did considerable damage to loblolly and Virginia pines in a large area during 1957 and damage is increasing all over the State. Several species of SCALE INSECTS were of importance usually on individual or small groups of ornamental plants, throughout the State. Outbreaks of PINE BARK APHIDS (Pineus strobi) began to show up as early as January in 1957, and the number of infestations increased as the season progressed until the fall. WHITE PINE WEEVIL (Pissodes strobi) damaged the terminals of pine seedlings, young pines, and plantations in scattered areas. MIMOSA WEBWORM (Homadaula albizziae) damage to mimosa trees became obvious by the middle of June and continued until the cold weather. The species is present all over the State. PINE SAWFLY larvae began defoliation of pine trees in April and did considerable damage through October. Damage was heaviest in central, eastern, southeastern and south central areas. Neodiprion lecontei is believed responsible for most of the damage although Neodiprion t. taeclae is known to have been responsible for extensive defoliation of pines in scattered areas in Mathews County. Increases in the number of infestations in the south central and southeastern counties may mean an epidemic in these areas in 1958. JAPANESE BEETLES (Popillia japonica) damaged forest and shade trees, ornamental plants, and flowers in all the infested areas of the State. From reports received, it is judged that populations were heavier in some areas than they have been during recent years. One large airfield, comprising several thousand acres, was treated in the southeastern part of the State to eradicate an infestation and to prevent spread. PALES WEEVIL (Hylobius pales) heavily damaged pine seedlings or pine trees in 4 scattered spots. FALL WEBWORM (Hyphantria cunea) was usually light but heavy in some instances. VARIABLE OAK LEAF CATERPILLAR (Heterocampa manteo) defoliated oaks in one large area in Warwick County. ELM LEAF BEETLE (Galerucella xanthomelaena) damaged leaves of elm trees throughout the State. GREEN JUNE BEETLE (Cotinis nitida) larvae damaged lawns in spots in all parts of the State. GIANT HORNET (Vespa crabro germana) stripped the bark from lilac bushes and apple twigs in many places but was usually controlled before plants were extensively damaged. PERIODICAL CICADA (Magicicada septendecim) began emerging about May 7, became heavy enough to damage forest and shade trees in Lee, Scott, Wise, Buchanan, and Dickenson Counties. ROOT COLLAR BORERS(Euzophera ostricolorella) have done extensive mining in yellow poplar stands in southwest Virginia in the past and the damage is now being noticed. They were also active and widespread in tracts in Southampton, Greensville, and Princess Anne Counties.

Insects Affecting Man and Animals: HOUSE FLIES (Musca domestica) were heavy around homes, barns and other such places. MOSQUITOES were heavy in the southeastern and eastern areas. CATTLE GRUBS (Hypoderma lineatum and H. bovis) began appearing in the backs of cattle as early as January 4, and were quite heavy by February. Practically all herds in the state were affected to some degree. SHEEP SCAB MITES (Psoroptes equi ovis) are a year round problem on sheep in northern and southwestern Virginia but are more of a problem during the winter months. Over 8,200 head of sheep were found scabby in 1957, and approximately 8,600 head were treated. In addition, an unidentified species of scab mite was found on 22 head of cattle in Fauquier County and treated. TICKS were not a problem on cattle but did cause trouble in some homes. SECONDARY SCREW-WORM (Callitroga macellaria) was very heavy in the skin of five sheep on a farm in Montgomery during late September. Three of the sheep died and the larvae are believed to have been responsible. CHIGGERS (Eutrombicula alfreddugesi) heavily damaged the legs of bronze turkeys on a farm in Rockingham County during July. One farmer lost approximately $1,500 because of lowering of grade. Larvae of A GREEN BOTTLE FLY (Phaenicia sericata) were found in the canal of a man's ear in Radford. TABANIDS became heavy on livestock of southeastern area in summer. STABLE FLY (Stomoxys calcitrans) was not a problem on cattle.

Cotton Insects: BOLL WEEVIL (*Anthonomus grandis*) rate of survival for overwintering adults was 29 percent for four southern Virginia counties. There was an average of 1,210 weevils per acre for the entire cotton-growing area of the State. Infestations became heavy by July, and many farmers applied insecticides from one to four times. Losses were fairly heavy. BOLLWORMS (*Heliothis* sp.) appeared late and caused only light damage. SPIDER MITES became heavy in a few cotton fields. THRIPS damage to young seedling cotton was medium in most fields.

Household Insects: COCKROACHES are the number one household insect pests in the State. BROWN-BANDED ROACH (*Supella supellectilium*) appears to be most troublesome and abundant species at present.

Structural Wood Insects: TERMITES were the number one insect pests of structural wood in Virginia during 1957. Many requests for control measures were received. A number of specimens and reports of infestations involved public buildings, although a majority involved private homes or building establishments. WOOD-BORING BEETLES were probably the number two insect pests of structural wood in Virginia during 1957. Where specimens were obtained, OLD HOUSE BORERS (*Hylotrupes bajulus*) were present most of the time and *Lyctus* beetles present several times. CARPENTER BEES (Usually *Xylocopa virginica*) damaged lumber in buildings in Floyd, Roanoke, Stuart, Patrick, and Henrico Counties and in Richmond.

Stored Food Insects: RICE WEEVILS (*Sitophilus oryza*) and GRANARY WEEVILS (*Sitophilus granarius*) were again responsible for considerable damage to corn and small grains stored on farms throughout the State and to grains in commercial and government leased elevators. These weevils are the number one insect destroyers of grain in Virginia. ANGOUMOIS GRAIN MOTHS (*Sitotroga cerealella*) are considered second to the grain weevils in importance as destroyers of stored grain. POTATO TUBERWORMS (*Gnorimoschema operculella*) damaged potatoes stored in homes and in potato storage houses in the State. LARDER BEETLE (*Dermestes lardarius*) damaged stored hams in Rockbridge and Augusta Counties. A KHAPRA BEETLE (*Trogoderma granarium*) survey in Virginia covered a total of 203 mills with no positive infestations found so far.

Beneficial Insects: Cocoons of parasites (probably *Apanteles militaris*) were very numerous in a number of fields following armyworm outbreaks in the spring. LADY BEETLES were responsible for holding down populations or reducing heavy populations of aphids on alfalfa, corn, tobacco, and various species of trees during 1957.

SUMMARY OF INSECT CONDITIONS - 1957

ALABAMA

Prepared by Walter H. Grimes

Highlights: Insect infestations were outstanding as far as major crops were concerned. EUROPEAN CORN BORER continued its southward spread into nine additional counties. Damage by FALL ARMYWORM was heavy in some areas almost completely destroying some fields of corn. VELVETBEAN CATERPILLAR was particularly injurious to soybeans and peanuts in southern parts of the State. CABBAGE LOOPER caused considerable damage to the foliage of cotton in central and southern areas. COWPEA CURCULIO caused heavy damage in several areas of the State. SCREW-WORM was present in large numbers. Other insects that were conspicuously troublesome were CORN EARWORM, MEXICAN BEAN BEETLE, SORGHUM WEBWORM, STRIPED BLISTER BEETLE, YELLOW-STRIPED ARMYWORM, RICE WEEVIL, ANGOUMOIS GRAIN MOTH, BOLL WEEVIL, BOLLWORM, APHIDS, COTTON LEAFWORM, SPIDER MITES, IMPORTED FIRE ANT, CAT FLEA, and BROWN DOG TICK.

Cereal and Forage Insects: FALL ARMYWORM (Laphygma frugiperda) cost farmers an estimated $451,600 during 1957 damaging principally corn, ($205,200) peanuts ($225,525) and grain sorghum, ($4,275) and was extremely destructive to pasture and clover crops in localized areas causing severe damages ($16,600). CORN EARWORM (Heliothis zea) caused an estimated loss of $1,520,270 to field and sweet corn and $32,500 damage to grain sorghum. EUROPEAN CORN BORER (Pyraustanubilalis) appeared in 9 additional counties in 1957, bringing the number of infested counties to 24, all in northern area. Damage was primarily to corn, estimated to be $125,000, and to grain sorghum $25,000. SORGHUM WEBWORM (Celama sorghiella), LEAF-FOOTED BUG (Leptoglossus phyllopus) and STINK BUG infestations were light to medium in grain sorghum over the entire State with damages estimated at $20,900. In the southern and central parts of the State VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) caused an estimated loss of $267,500 to peanuts and $119,250 to soybeans. CABBAGE LOOPER (Trichoplusia ni) and CORN EARWORM also damaged soybeans. STRIPED BLISTER BEETLE (Epicauta sp.), SPOTTED ALFALFA APHID (Therioaphis maculata) and THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) caused moderate to heavy damage to alfalfa. The spotted alfalfa aphid was found for the first time in Alabama in 1956. During 1957 this insect was found in 11 counties and is believed to have spread over the entire State. Surveys over limited acreage revealed that MEXICAN BEAN BEETLE (Epilachna varivestis) and SOUTHERN GREEN STINK BUG (Nezara viridula) were very damaging to the young pods of soybeans and are becoming increasingly important to the soybean industry. WHITEFLIES were also noted in epidemic proportions on soybeans in the south-central area. GRASSHOPPERS of various species were found in unusually high numbers in pasture crops during the early part of September in Dallas and Wilcox Counties. LESSER CORNSTALK BORER (Elasmopalpus lignosellus), CORN ROOTWORM (Diabrotica undecimpunctata howardi) and STALK BORER (Papaipema nebris) attacked corn, grain sorghum, peanuts, and other crops in localized areas causing damage estimated at $550,000. PINK SCAVENGER CATERPILLAR (Pyroderces rileyi) was numerous on corn in Lee County during October. VELVETBEAN CATERPILLAR severely damaged kudzu and alfalfa in central part of State during early fall. ALFALFA CATERPILLAR (Colias philodice eurytheme) and GREEN CLOVERWORM (Plathypena scabra) caused light damge to alfalfa in Lee County in early October. Infestations of CORN LEAF APHID (Rhopalosiphum maidis) were lighter than in 1956. SOUTHERN CORNSTALK BORER (Diatraea crambidoides) lightly damaged corn in localized area. Light damage to oats was caused by the GREENBUG (*Toxoptera graminum*) during late October. In mid-November PEA APHID (*Macrosiphum pisi*) caused light damage to vetch in areas of Lee County. RAPID PLANT BUG (*Adelphocoris rapidus*) caused considerable damage in these areas. In late November and early December WHITE GRUBS were present in economic proportions in sodded areas in northern counties. TOBACCO THRIPS (*Frankliniella fusca*) caused considerable stunting of peanuts in Houston, Henry, and Coffee Counties.

Fruit Insects: FALL WEBWORM (*Hyphantria cunea*) was general in pecan trees over the State from early summer to fall. SHOT-HOLE BORER (*Scolytus rugulosus*) was numerous in dead limbs of reclining peach trees in Lee County during late July. APPLE APHID (*Aphis pomi*) and WOOLLY APPLE APHID (*Eriosoma lanigerum*) infestations were heavy on water sprouts of apple trees in late July in Lee County, and the latter was also found on the roots of apple trees. BLACK PECAN APHID (*Melanocallis caryaefoliae*) infestations were heavy in early summer but light during late July and early August. Light infestations of GRAPE FLEA BEETLE (*Altica chalybea*) damaged muscadines in Madison County during early August. Light infestations of FLANNEL MOTHS were observed on apple trees in Morgan County during mid-summer. ORIENTAL FRUIT MOTH (*Grapholitha molesta*) heavily damaged photinia in Lee County. Damage by PEACH TREE BORER (*Sanninoidea exitiosa*) was relatively light as was damage by the GRAPEVINE APHID (*Aphis illinoisensis*)

Truck Crop Insects: CORN EARWORM (*Heliothis zea*) and FALL ARYWORM (*Laphygma frugiperda*) were particularly injurious to sweet corn during early season. Severe damage was again recorded in fields of late sweet corn. TOMATO FRUITWORM caused considerable damage to the tomato crop in the southern part of State. SQUASH VINE BORER (*Melittia cucurbitae*) inflicted moderate damage in several counties. MEXICAN BEAN BEETLE (*Epilachna varivestis*) caused severe damage to pole and snap beans as early as mid-June in southern areas. Infestations were higher statewide than for past several years. COWPEA CURCULIO (*Chalcodermus aeneus*) damage to pole and snap beans and peas was the most severe on record for Cullman and Lee Counties. Other areas also suffered considerable damage. Unusually heavy damage to field pea foliage was caused by the BEAN LEAF BEETLE (*Cerotoma trifurcata*). In early July a LEAF MINER (*Liriomyza guytoni*) appeared in large numbers on the leaves of squash, butterbeans, tomatoes, cucumbers, and cantaloupes. ASPARAGUS BEETLE (*Crioceris asparagi*) infestations were high in localized areas. STRIPED BLISTER BEETLES (*Epicauta* sp.) caused considerable damage to tomato plants Lee, Clay, and Shelby Counties during July. PICKLEWORM (*Diaphania nitidalis*) infestations were light in late June and early July, increasing to severe on cantaloupes and squash during mid-July in Lee and St. Clair Counties. STRIPED TORTOISE BEETLE (*Agroiconota bivittata*) caused early light damage to sweetpotatoes in Cullman County. Damage to sweetpotatoes by MOTTLED TORTOISE BEETLE (*Deloyala guttata*) and GOLDEN TORTOISE BEETLE (*Metriona bicolor*) was prevalent in Lee County in October. MARGINED BLISTER BEETLE (*Epicauta pestifera*) caused light damage to tomatoes. YELLOW-STRIPED ARMYWORM (*Prodenia ornithogalli*) caused light damage to tomatoes in the southern part of the State during late July and August and light damage to sweetpotatoes in Geneva County during August. SPIDER MITES were severe on several truck crops in localized areas especially in Lee County on pole lima beans. LEAF-FOOTED BUG (*Leptoglossus phyllopus*) was common on okra in Lee County during late October. TURNIP APHID (*Rhopalosiphum pseudobrassicae*) and YELLOW-MARGINED LEAF BEETLE (*Microtheca ochroloma*) caused light to moderate damage to turnips during November.

Cotton Insects: Cotton insects in general were not as abundant in 1957 as they were in 1956. Farmers treated 585,967 acres or 57 percent of the total acreage planted in the State for insect control. BOLL WEEVIL (*Anthonomus grandis*) infestations were high during early part of growing season. However, by mid and late season infestations were below those for corresponding periods of 1956. Damage was general and it is estimated that the loss was $12,000,000.

BOLLWORMS (*Heliothis* spp.) were of importance in some areas. For the first time on record CABBAGE LOOPER (*Trichoplusia ni*) was of major importance for its defoliation of cotton in the central and southeast areas. SPIDER MITES and THRIPS were of minor importance but caused some damage. There was a general buildup of COTTON APHID (*Aphis gossypii*) over the State. Infestations in general were higher than since 1954. It is estimated that $23,900,000 were saved through control of cotton insects during 1957.

Forest Insects: A cooperative survey with the Southern Forest Experiment Station revealed a moderately severe infestation of SOUTHERN PINE BEETLE in Tallapoosa County. Areas of pine up to 3 acres were killed. U. S. Forest Service personnel reported southern pine beetle conditions in Alabama National Forests were static in 1957, as compared to previous years, which is believed to be due to a combination of intensive control measures and near normal rainfall for the period. PINE WEEVILS (*Pachylobius picivorus* and *Hylobius pales*) caused some loss of seedlings in newly established pine plantations planted too soon following clear-cutting operations. In one area in Baldwin County, about 50 percent of the stand was destroyed. Light to moderate infestations of PINE TIP MOTH (*Rhyacionia frustrana*) were reported from a large part of the State. *Ips calligraphus*, *Ips grandicollis* and *Ips avulsus* were present in moderate numbers in Lee County. BLACK TURPENTINE BEETLE (*Dendroctonus terebrans*) was moderate in cut timbers in Lee County. AMBROSIA BEETLES (*Platypus* spp.) were fairly common in the bark of stumps in east central Alabama. ELM LEAF BEETLE (*Galerucella xanthomelaena*) caused unusually heavy damage to elm trees in localized areas. Heavy populations of CATALPA SPHINX (*Ceratomia catalpae*) larvae were noted in Butler County. Most were parasitized. WHITEFLIES were numerous on gardenia and privet in Lee County. COTTONY-CUSHION SCALE (*Icerya purchasi*) and A WAX SCALE (*Ceroplastes ceriferus*) were not as numerous in the fall of 1957 as usual. Heavy infestations of a MEALYBUG on magnolia leaves were reported in mid-October from Lee County. A KERMES SCALE (*Kermes galliformis*) and AN OAK LECANIUM (*Lecanium quercifex*) were unusually light on water oak in Lee County. SPIREA APHID (*Aphis spiracecola*) caused severe damage to new shoots of spirea in Lee County. A WOOLLY PINE SCALE (*Pseudophilippia quaintancii*), PINE TORTOISE SCALE (*Toumeyella numismaticum*) and A PINE PITCH MIDGE (*Retinodiplosis resinicola*) were not as abundant as in previous years. COTTONY-MAPLE SCALE (*Pulvinaria innumerabilis*) caused slight damage to mimosas in Henry County.

Stored-Product Insects: RICE WEEVIL (*Sitophilus oryza*) caused light damage to early maturing corn in Wilcox and Baldwin Counties, and will cause an estimated $4,200,000 damage to stored grain. ANGOUMOIS GRAIN MOTH (*Sitotroga cerealella*) was found in very large numbers in stored grain during early November. It is estimated that the damage will exceed $1,900,000. Other stored grain insects of lesser importance include DARK MEALWORM (*Tenebrio obscurus*), YELLOW MEALWORM (*Tenebrio molitor*) CADELLE (*Tenebroides mauritanicus*), RED FLOUR BEETLE (*Tribolium castaneum*), SQUARE-NECKED GRAIN BEETLE (*Cathartus quadricollis*) and HIDE BEETLE (*Dermestes maculatus*). CIGARETTE BEETLE (*Lasioderma serricorne*) and INDIAN-MEAL MOTH (*Plodia interpunctella*) were also found damaging stored grain.

Insects Affecting Man or Animal: Infestations of SCREW-WORM (*Callitroga hominivorax*) were heavier in 1957 than since 1950. Reports were as early as June 25 from Houston County. Infestations gradually spead over the entire State and damage continued until late October and November. Farmers treated 204,000 animals and it is estimated that $351,180 was lost from attacks of this insect. HORN FLY (*Siphona irritans*), COMMON CATTLE GRUB (*Hypoderma lineatum*) and CATTLE BITING LOUSE (*Bovicola bovis*) were moderate to severe on cattle. It is estimated that 847,000 cattle were treated for control of these insects. HORSE FLIES were noted in moderate numbers on cattle throughout the Black Belt area during late summer and early fall. CAT FLEA (*Ctenocephalides felis*) and DOG FLEA (*Ctenocephalides canis*) were abundant in central Alabama during late summer. BROWN DOG TICK (*Rhipicephalus sanguineus*) was present in large numbers during August and September in Lee and surrounding counties. EARWIGS were annoying in homes in Montgomery County.

Miscellaneous Insects: A CHINCH BUG (*Blissus leucopterus insularis*) caused extensive damage to lawns of St. Augustine grass in southern and central Alabama throughout the summer. BLACK CARPENTER ANT (*Camponotus herculeanus pennsylvanicus*) was found in dwelling houses in Elmore County. GERMAN COCKROACH (*Blattella germanica*) control presented problems in several areas of the State. IMPORTED FIRE ANT (*Solenopsis saevissima richteri*) caused considerable trouble to pasture crops in the Black Belt section. Positive identifications have been made in 44 counties.

INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

COMMON CRANE FLY (*Tipula oleracea* L.)

Economic Importance: The larvae of this tipulid attack many agricultural crops. Cereals and crucifers have been heavily damaged in many areas of Europe. The pest is especially serious in southern Europe and in years of severe outbreaks in Italy, it may destroy entire seedbeds of rice, necessitating resowing. In Scotland, as much as two-thirds of the cereal crops may be lost. Estimates in Germany show that a larval population of 42 per square yard will cause serious injury to crops in arable land, but in grassland, twice that number can be supported. During years of mass increase, several times as many are usually present. *Tipula oleracea*, which is predominantly a southern European species, is one of several economically important crane flies occurring in Europe. Larvae of a European *Tipula* have been taken several times near St. Johns, Newfoundland, Canada. Larvae of *Tipula* sp. have also been intercepted in soil or on plant roots at U. S. ports of entry on occasions.

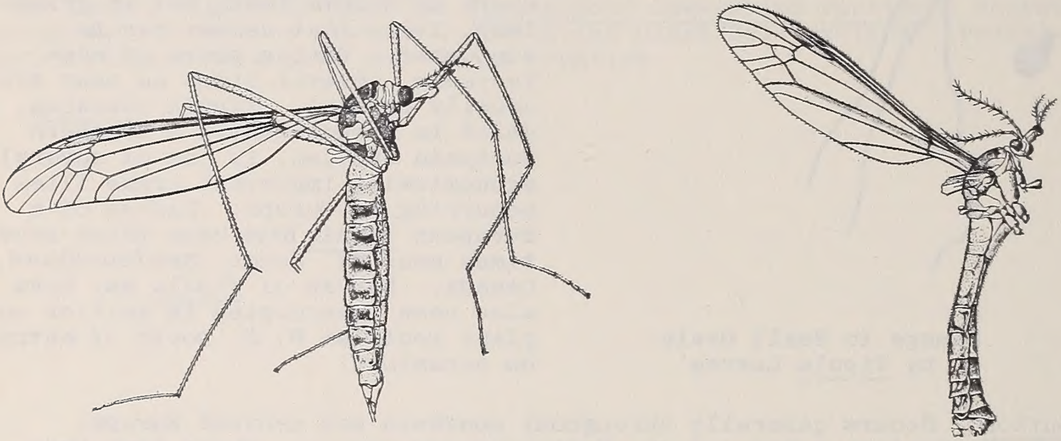
Damage to Small Grain
by *Tipula* Larvae

Distribution: Occurs generally throughout southern and central Europe, including the British Isles and the Mediterranean region. There have been several records of the species occurring in North Africa.

Hosts: Larvae attack crucifers, cereals and other grasses, legumes, potatoes, beets, strawberries, raspberries and various ornamentals.

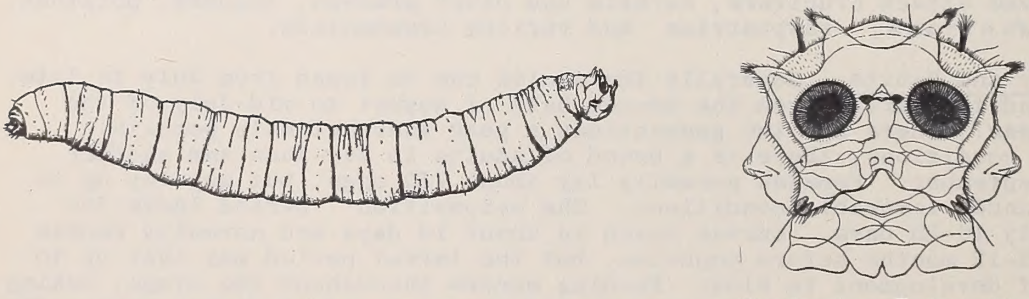
Life History and Habits: Generally the adults can be found from July to late September and the larvae from the second half of August to mid-July of the following year. There are two generations a year where climate permits. Under these conditions, there is a brood of adults in May-June and another in August-September. Females normally lay about 750 eggs, but may lay up to 1,300 eggs under favorable conditions. The oviposition period lasts for approximately 10-20 days. Larvae hatch in about 14 days and normally remain active for 9-12 months before pupation, but the larval period may last up to 15 months if development is slow. Feeding occurs throughout the stage, taking place at anytime of the day underground, and above ground at night, especially when conditions are humid. The young larvae prefer green leaves of young plants to the roots. Overwintering larvae remain near the surface of the soil (6 to 8 inches) and migrate deeper only when the soil dries in the spring. Pupation takes place from mid-July to September in soil at a depth of about 2 inches. When there is only one generation, pupation lasts for 10 to 25 days.

Description: Adult male is generally silvery or dusty-gray. Eyes black, proboscis brownish; antennae 13-jointed, dark, at least first three segments testaceous; palpi brown. Thorax brownish with four pale indistinct brown stripes; metathorax and pectus grayish-white; halteres brown, blackish at ends. Abdomen slaty-gray, testaceous near tip which is upturned. Wings gray-brown, clear, wing streak whitish and rather distinct. Legs brownish; femora and tibiae darker at tips; tarsi black. Female similar to male, wings larger, longer than abdomen which is tawny at tip. Length 15 to 23 mm. Egg black, shining, reticulate, elongate-oval in shape, somewhat asymmetrical. Size 1 x 0.3 mm. Larva uniform earthy gray; shape rather conical towards head and rounded posteriorly; head black; antennae prominent; mandibles conspicuous. Length 40 mm. when fully extended. Pupa pale at transformation, darkening to blackish-brown. There is a yellow marginal streak extending along thoracic and abdominal segments and also double line of light gray crossing the segments dorso-ventrally. Abdominal spines situated on posterior margin of each segment, those at dorsal surface being smaller; caudal end spiny and pointed. Length 20-25 mm. (Prepared in Plant Pest Survey Section in cooperation with other ARS agencies.) CEIR 8 (9) 2-28-58



Female

Male



Larva

Posterior Extremity of Larva

Adults and Larvae of Tipula oleracea

Figures: Larvae and adults from Del Guercio, G. 1913. Redia 9: 299-345. Damage from Balachowsky, A. and Mesnil, L. 1935. Les Insectes Nuisibles aux Plantes Cultivees. 1137pp. Paris.